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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/602,539
Filing Date: June 24, 2003
Appellant(s): RICHMAN, RUSSELL MARK

KEVIN M. MASON
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/10/08 appealing from the Office action mailed 8/23/07.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,754,948	METZE	5-1998
6,577,157	CHEUNG ET AL.	6-2003
6,690,741	LARRICK ET AL.	2-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 5-6, 10 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metze (U.S. Patent 5,754,948) in view of Larrick, Jr. et al. (US 6,690,741).

Regarding claims 1, 14, Metze teaches a method for wireless communication among first and second integrated circuit devices 16 within an enclosure 12 (fig. 1), said method comprising the steps of: transmitting a signal using a first antenna associated with said first integrated circuit device (see antenna in fig. 2); and receiving said signal using a second antenna associated with said second integrated circuit device (see antenna, fig. 2) within said enclosure 12. Metze also suggests that the frequencies are used and fall within the standard IEEE definition (col. 5, lines 28-32) and that wide bandwidth MIMICs operating at well above 100 GHz are now commercially available (col. 3, lines 62-64). Metze does not explicitly state that said signal is transmitted in accordance with an ultra wide band wireless standard. Larrick et al teach that with the

technology of MIMIC, the transmitters can transmit at ultra wide band signal (col. 4, lines 38-42), which belongs to IEEE 802.15. Because both Metze and Larrick et al teach devices that use the technology of MIMIC which fall within the IEEE standards, it would have been obvious to one of ordinary skill in the art at to substitute one protocol for the other to achieve the predictable result of transmission of high speed data in the MIMIC technology.

Regarding claim 17, Metze teaches an integrated circuit device 16 within an enclosure 12 (fig. 1), comprising: at least one circuit (18, fig. 2) for transmit a signal in accordance with wide wireless band standard (Metze also suggests that the frequencies are used and fall within the standard IEEE definition (col. 5, lines 28-32) and that wide bandwidth MIMICs operating at well above 100 GHz are now commercially available (col. 3, lines 62-64); and an antenna (see antenna, fig. 2) for transmitting said signal to a second integrated circuit device 16 within said enclosure 12 (fig. 1). Metze does not explicitly state that said signal is transmitted in accordance with an ultra wide band wireless standard. Larrick et al teach that with the technology of MIMIC, the transmitters can transmit at ultra wide band signal (col. 4, lines 38-42), which belongs to IEEE 802.15. Because both Metze and Larrick et al teach devices that use the technology of MIMIC which fall within the IEEE standards, it would have been obvious to one of ordinary skill in the art at to substitute one protocol for the other to achieve the predictable result of transmission of high speed data in the MIMIC technology.

Regarding claims 2, 20, Metze teaches that said first and second antennas are incorporated in said first and second integrated circuit devices (see fig. 2).

Regarding claims 5, 15, 18 Metze teaches that said signal comprises one or more channels (col. 5, lines 15-24).

Regarding claims 10, 16, 19, Metze teaches that said enclosure is a housing of a self-contained device (fig. 1, numeral 12).

Regarding claim 6, Metze teaches the method of claim 1. Metze fails to teach that one or more signals are transmitted by said first antenna using one or more associated sub-carrier frequencies. However, as illustrated in the rejection of dependent claim 5, the signal comprises one or more channels; therefore, it could obviously comprise one or more sub-carrier frequencies because channels or frequencies can also be sub-carrier frequencies. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include sub-carrier frequencies into the system of Metze in order to allow more IC to be involved in the communication system.

Claims 3, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metze in view of Larrick, Jr. et al. as applied to claims 2 and 17 above and further in view of Cheung et al (U.S. Patent 6,577,157).

Regarding claims 3, 21, Metze fails to teach that at least one of said first and second antennas is a pin on said first or second integrated circuit device. In an analogous art, Cheung teaches that the pins of an IC circuit can be used to provide different functions (col. 3, lines 56-59), some of which can also be antennas if desired (col. 5, lines 44-49). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Cheung to the devices of Metze in order to reduce the space of the IC, thereby reducing the size of the enclosure.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Metze in view of Larrick, Jr. et al. as applied to claims 2 and 17 above and further in view of Nozawa et al. (U.S. Patent 6,942,157).

Regarding claim 4, Metze fails to teach that at least one of said first and second antennas is fabricated on said first or second integrated circuit device. However, Nozawa teaches that antenna can be conductor film printed on the IC (figs. 8-9, col. 8, lines 1-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Nozawa to the devices of Metze in order to reduce the space of the IC, thereby reducing the size of the enclosure.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metze in view of Larrick, Jr. et al. as applied to claims 1 and 17 above and further in view of in view of Ghaem (U.S. Patent 5,335,361).

Regarding claims 7-9, Metze fails to teach that said signal is time-division multiplexed, or said signal is frequency-division multiplexed, said signal is spatially multiplexed. In the same field of Metze, Ghaem teaches that dependent on the choice, time division or frequency division multiplexing could be used by the ICs (col. 4, line 53 through col. 5, line 7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the multiplexing teaching of Ghaem into the system of Metze in order to enable simultaneous communication without interference.

(10) Response to Argument

The invention can be summarized as followed: The communication between IC (Integrated Circuit) devices within a container can be achieved via a wireless link including a variety of protocols or technologies, such as IEEE 802.11a, Bluetooth or UWB (Ultra Wideband) of IEEE 802.15.

Regarding the rejection of independent claims 1, 14 and 17, the Appellant argues that the terms "high bandwidth" or "wide bandwidth" and *"ultra wide, bandwidth, " are not technically equivalent,* as would be well understood by a person of ordinary skill in the art. While Metze may teach that "other frequencies may be utilized and still fall within the standard I.E.E.E. definition of 'millimeter-wave' for purposes of this invention," Metze does *not* disclose or suggest *"ultra wide bandwidth,"* as defined in the art. The Appellant further argues that Metze is clearly limited to transmission and reception over *discrete* carrier frequencies. See, for example, the discussion at col. 4, lines 48- 53, where it is noted that if the MIMIC 16 labeled T1/R1 (in FIG. 1) transmits at (discrete) frequency f2 and receives at (discrete) frequency f1 and the MIMIC 16 labeled T2/R2 transmits at (discrete) frequency f1 and receives at (discrete) frequency f2, data can be readily transmitted between the CPUs 14 labeled A1 and A2. Based upon these assertions, the Appellant concludes that Metze's teaching of the use of *discrete* carrier frequencies, such as fl and f2, for transmission and reception between two integrated circuits *teaches away* from the present invention. Thus, a person of ordinary skill in the art would not even look to Larrick et al. for the UWB transmissions employing a broad frequency range.

In response, according to the present invention, as alleged by the Appellant, a variety of protocols and technologies can be utilized for the wireless connection, such as IEEE 802.11a, Bluetooth or ultra wide bandwidth (UWB) (Specification, pp. 4; ll. 18-21). The Appellant further admitted that UWB is I.E.E.E 802.15 (Specification, pp. 4; ll. 18-25), which belongs to the I.E.E.E. standard. In addition, the Appellant recognized that these

standards exhibit extremely "high bandwidths" at relative short distances and are thus suitable for interconnecting IC devices in accordance with the present invention. Metze does not teach "ultra wide bandwidth, but he does teach that the frequencies used in his apparatus apply to the I.E.E.E standard (Col. 5; ll. 28-32), and that his device uses high and wide bandwidth (Col. 3; ll.59-64). Therefore, the transmission over discrete frequencies is just an example as taught by Metze (See "For example" in Col. 4; ll. 48-57 and Col. 5; 17-23), which can be selectively applied to other high bandwidth protocols of the I.E.E.E standard (Col. 5; ll. 17-32). Consequently, the notion that Metze teaches away from the present invention is not true because similar to Metze, the claimed invention can selects between I.E.E.E 802.11a, Bluetooth or ultra wide bandwidth (UWB) in the I.E.E.E standard. As a result, the selection of UWB among other protocols in the I.E.E.E standard is just an intended use of selecting among the protocols (The evidences can be found in the cancellation of dependent claims 11-13 and the specification of the present invention, page 4, lines 18-25).

Therefore, given the same transmitter permitting the use of wideband MIMIC of Metze and Larrick et al, simple substitution of wideband for ultra wideband would have yield predictable results.

Regarding the rejection of dependent claims 3 and 21, the Appellant further argues that the antennas are pins on the integrated circuit devices. The Examiner asserts that Cheung et al., col. 1, lines 56-59; and col. 5, lines 44-49, teaches that the pins of an IC circuit can be used to provide different functions. The discussion by Cheung et al. of antennas, however, are the *unintended* result of unused pins generating *noise*.

Thus, such pins are not transmitting a *signal* that is *received* by a second antenna. If anything, Cheung et al. *teaches away* from the present invention.

The examiner respectfully disagrees, if the pin antenna of Cheung et al generates noise and not transmitting signal, so does the pin antenna of the present invention because both antennas of Cheung et al and claims 3 and 21 of the present invention are pins of an IC circuit. Thus, if Cheung et al teach away from the present invention, so do claims 3 and 21 of the present invention.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Lee Nguyen

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